

[54] **ELECTROPHORETIC DISPLAY PANELS AND ASSOCIATED METHODS**

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Related U.S. Application Data

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[57] **ABSTRACT**

There is disclosed an electrophoretic display apparatus which includes a planar transparent member having disposed on a surface a plurality of vertical conductive lines to form a grid of lines in the Y direction. On top of the grid of vertical lines there is disposed a plurality of horizontal lines which are positioned above the vertical lines and insulated therefrom by a thin insulating layer at each of the intersection points. Spaced above the horizontal and vertical line pattern is a conductive plate. The spacing between the conductive plate and the X and Y line patterns is filled with an electrophoretic dispersion containing chargeable dye articles. When a voltage is impressed between the X and Y lines, dye pigment particles which are located in wells or depressions between the X and Y pattern are caused to migrate towards the conductive plate and are deposited upon the conductive layer in accordance with the bias applied to the X and Y line conductors. There is described an electrophoretic dispersion suitable for operation with the display as well as techniques for fabricating the display. In this manner the displays can be fabricated to contain large effective display surfaces while being relatively thin and which are capable of high resolution at relatively low power.

4 Claims, 9 Drawing Figures

